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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,055	02/19/2002	Seung-Hwan Moon	6192.0234.AA	8407
7590	05/20/2004		EXAMINER	
McGuire Woods Suite 1800 1750 Tysons Boulevard McLean, VA 22102-4215			LAO, LUN YI	
			ART UNIT	PAPER NUMBER
			2673	5

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/077,055	MOON, SEUNG-HWAN
	Examiner	Art Unit
	Lao Y Lun	2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 29 April 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) 17 and 18 is/are withdrawn from consideration.
 5) Claim(s) 10-12, 15 and 16 is/are allowed.
 6) Claim(s) 1-9 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 19 February 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation for “a second voltage(Von)” cited in claims 1 and 6 is not consistent with a second voltage(CVDD) cited on the specification(see paragraph #40 and #42).

Specification

2. The disclosure is objected to because of the following informalities:

The recitation of “a driving voltage generator for generating first and second voltages(Von)” on paragraph 12 is not consistent with a second voltage(CVDD) cited on the specification(see paragraphs #40 and #42).

The recitation of “converting a level of the first voltage” on paragraphs 12 and 14 should be changed to “a voltage divider for converting a level of the **Von** voltage”.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8 –9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kastan et al(5,109,219) in view of Goode, III et al(6,297,790).

Kastan et al teach a diving voltage for generating a first voltage based on an externally input power(see figures 1-2; 5-6; column 2, lines 34-37 and column 5, lines 6-31); a decoder for decoding information of the viewing angle received by operation of a user(see figures 1-2, 5-6, column 2, lines 7-41; column 3, lines 30-68 ; column 4, lines 1-32 and column 5, lines 6-31); a power selector(14) having a plurality of voltage sources, for selecting any one of the voltage sources based on the information of the viewing angle input by a user to generate a second voltage(18); a viewing angle generator for generating information about the viewing angle based on the first and second voltages(see figures 1-3; column 3, lines 30-43 and column 4, lines 33-60) .

Kastan et al fail to select a liquid crystal gamma curve based on the received information about the viewing angle.

Good et al teach an LCD display comprising a gamma curve

Determiner (DAS) for selecting a liquid crystal gamma curve corresponding to the received information about the viewing angle, and controlling a gray level with a gamma voltage value based on the selected liquid crystal gamma curve (see figures 1-4; column 3, lines 1-68; column 4, lines 1-14; column 7, lines 15-67 and column 8, lines 1-37). It would have been obvious to have modified Kastan et al with the teaching of Good, III et al, so as to provide a high quality of an LCD display with the gamma correction of the viewing angle (see Good et al's column 1, lines 9-10).

As to claim 9, Good et al teach the first voltage can be an analog driving voltage (the viewing angle adjusted by a knob (see column 2, lines 19-35).

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui (5,754,150) in view of Kastan et al (5,109,219).

Matsui teach an LCD display having a variable resistor, wherein the variable resistor varies voltage application being a function of viewing angle (see figure 3; column 2, lines 34-54; column 4, lines 56-65 and column 10, lines 7-53) and a liquid crystal gamma curve corresponding to the viewing angle (see figures 3, 12; column 2, lines 34-54 and column 10, lines 4-43).

Matsui fails to disclose a notebook computer.

Kastan et al teach an since the LCD used in a notebook computer(see column 1, lines 14-30). It would have been obvious to have modified Matsui with the teaching of Kastan et al, since the LCD display having be reduced in the depth weight and power dissipation comparing to a CRT display.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui(5,754,150) in view of Kastan et al(5,109,219) and Ferrel et al(6,628,255).

Matsui as modified fail to disclose the variable resistor for changing the viewing angle of a display mounted on a hinge of the LCD display.

Ferrel et al teach a resistor for varying the viewing angle of an LCD display mounted on a hinge of the LCD display(see figure 1; column 1, lines 61-68 and column 2, lines 1-7). It would have been obvious to have modified Matsui as modified with the teaching of Ferrel et al, so as to provide more convenience for a user to adjust the view angle by a user's thumb when a user holding a computer.

Allowable Subject Matter

7. Claims 15-16 are allowable.

Claims 10-12 are allowable since none of cited reference teach an LCD display for feeding analog driving voltage having the lower level(VF) back to a second input terminal of the driving voltage generator(100)(see figure 8).

Response to Arguments

8. Applicant's arguments filed on April 29, 2004 have been fully considered but they are not persuasive.

Applicant argues that Kastan et al do not teach a power selector comprising a plurality of voltage sources and selecting one of the voltage sources based on the decoded the viewing angle data to generate a second voltage on page 10. the examiner disagrees with that since Kastan et al teach a power selector(14) comprising a plurality of voltage sources(V27, 0.3-2.7V) and selecting one of the voltage sources based on the decoded the viewing angle data to generate a second voltage(V18)(see figures 3, 6; column 3, lines 44-68; column 4, lines 1-48 and column 5, lines 6-31).

Applicant argues that none of the cited references teach the feature of "feeding the analog voltage having the lowered level back to a second input terminal of the driving voltage generator" on page 11.

Applicant argues that Matsui does not teach a variable resistor varies a voltage applied to the liquid crystal based on a view angle on page 12. The examiner disagrees with that since Matsui teach when the input voltage changing, the viewing angel will be changed since the viewing angle is depended on the liquid crystal scattering characteristic(see figures 3, 11-12 and column 2, lines 36-55).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsuo et al(4,319,237) teach the viewing angle of a display can be changed when the value of variable resistance is changed.

Kikuo et al(5,250,937) teach an angular viewing adjustment.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi, Lao whose telephone number is (703) 305-4873.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at (703) 305-4938.

Any response to this action should be mailed to:

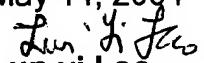
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

May 14, 2004

Lun-yi Lao
Primary Examiner